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(57) Abstract: A method of testing samples for their enzymatic activity for hydrolysis of a particular ester or amide bond in a substrate uses a test substrate with one or more polyunsaturated fatty acyl groups linked through amide or ester bonds. The release of the polyunsaturated fatty acid is detected by the use of a lipoxygenase to convert the polyunsaturated fatty acid into a hydroperoxide which is then detected, e.g. through a color reaction.